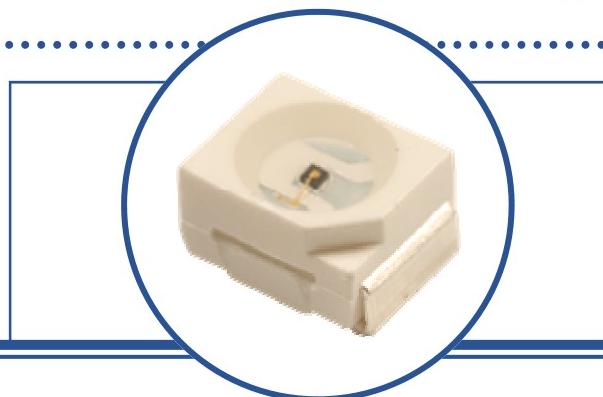


Infrared Light Emitting Diode in SMT Plastic Package



OP280

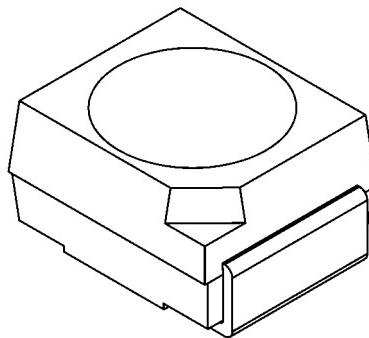
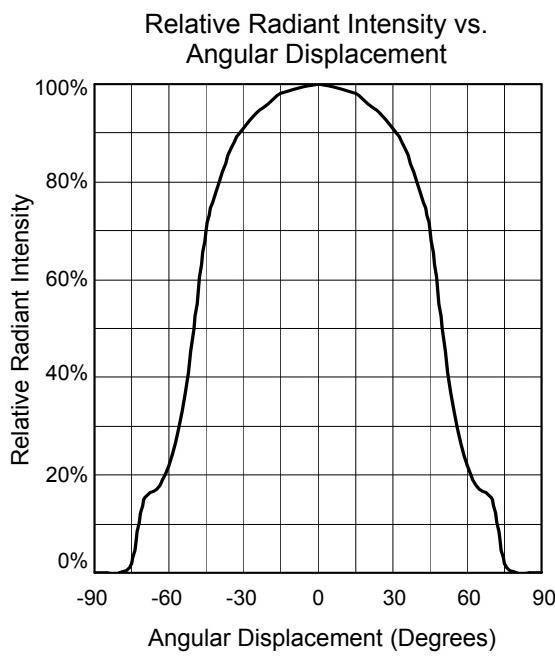
- Wide Beam Angle
- High Power
- Plastic Leadless Chip Carrier (PLCC-2)
- 880nm Wavelength



The OP280 is a GaAlAs infrared LEDs mounted in a plastic SMT package. The device flat lens window which allows a wide beam angle. This device is packaged in a plastic leadless chip carrier (PLCC-2) that is suitable for single device or array applications. The OP280 is mechanically and spectrally matched to the OP580 phototransistor.

Applications

- Non-Contact Position Sensing
- Datum detection
- Machine automation
- Optical encoders



OP280



RoHS

Optek reserves the right to make changes at any time in order to improve design and to supply the best product possible.

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A subsidiary of
TT electronics plc



SMT Infrared LED

OP280



Absolute Maximum Ratings

$T_A = 25^\circ C$ unless otherwise noted

| | | | |
|-----------------------------|-----------------------|--|--|
| Storage Temperature Range | -40° C to +85° C | | |
| Operating Temperature Range | -25° C to +85° C | | |
| Lead Soldering Temperature | 260° C ⁽¹⁾ | | |
| Reverse Voltage | 30 V | | |
| Continuous Forward Current | 50 mA | | |
| Power Dissipation | 130 mW ⁽²⁾ | | |

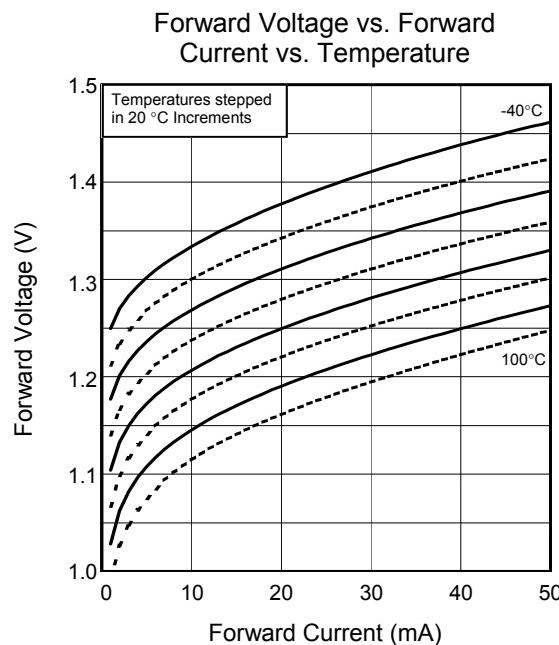
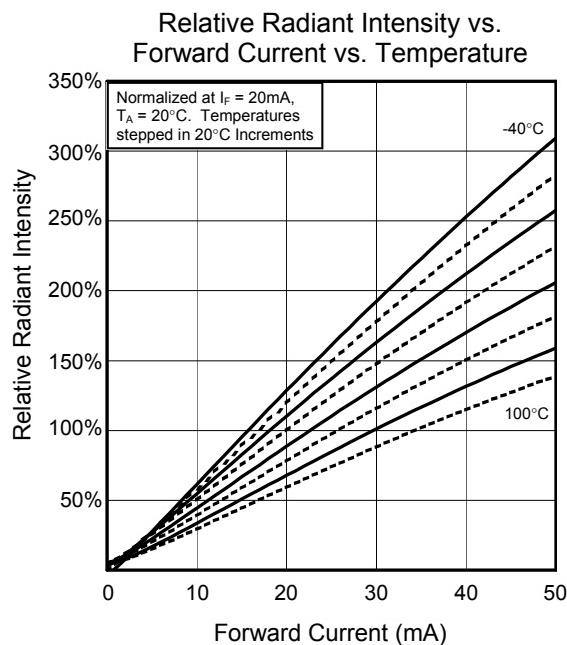
Notes:

1. Solder time less than 5 seconds at temperature extreme.
2. De-rate linearly at 2.17 mW/° C above 25° C.

Electrical Characteristics ($T_A = 25^\circ C$ unless otherwise noted)

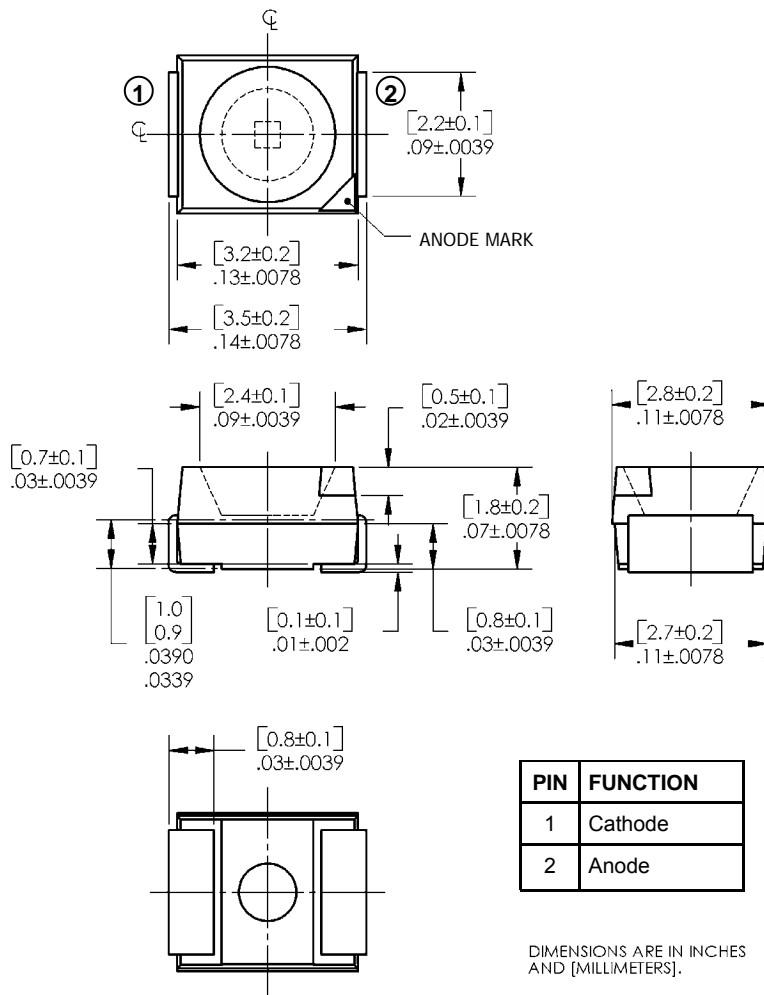
| SYMBOL | PARAMETER | MIN | TYP | MAX | UNITS | CONDITIONS |
|---------------|-------------------------------------|-----|-----|-----|--------------------|--|
| $E_{e(APT)}$ | Apertured Radiant Incidence | 0.5 | | | mW/cm ² | $I_F = 20mA^{(3)}$ |
| V_F | Forward Voltage | | 1.5 | | V | $I_F = 20mA$ |
| I_R | Reverse Current | | 100 | | μA | $V_R = 2.0V$ |
| λ_P | Peak Emission Wavelength | 890 | | | nm | $I_F = 10mA$ |
| Θ_{HP} | Emission Angle at Half Power Points | 100 | | | Deg. | $I_F = 20mA$ |
| t_r, t_f | Rise and Fall Time | | 500 | | ns | $I_{F(PEAK)} = 100mA, PW = 10\mu s, 10\% D.C.$ |

3. $E_{e(APT)}$ is a measurement of the apertured radiant incidence upon a sensing area 0.081" (2.06mm) in diameter, perpendicular to and centered on the mechanical axis of the lens, and 0.590" (14.99mm) from the measurement surface. $E_{e(APT)}$ is not necessarily uniform within the measured area.



SMT Infrared LED

OP280



RECOMMENDED SOLDER PADS

